REMARKS

Claims 1-23 are pending in the application. Claims 4 and 13 have been canceled and subject matter recited therein included in the independent claims from which they depend. Similar subject matter has been incorporated into independent claims 19 and 23. Claims 24 and 25 have been added to recite the improved properties achieved by the presently claimed ionic conductive polymer membrane. Support for the new claims can be found, *inter alia*, in the specification at page 7, first full paragraph, and page 19, first full paragraph. No new matter is presented by the amendments. Accordingly, applicant respectfully requests entry thereof and reconsideration of claims 1-3, 5-12, and 14-25 in light of the following remarks.

Claims 1-3, 6-12 and 15-23 were rejected in the under 35 U.S.C. § 102 (b) as being anticipated by Bahar *et al.*, U.S. Patent No. 5,635,041 ("Bahar"). Applicant respectfully traverses this rejection. Subject matter of non-rejected claims has been included in the independent claims thereby rendering moot this rejection.

Claims 1, 2, 5-11 and 14-23 also were rejected under 35 U.S.C. § 102 (b) as being anticipated by Grot *et al.*, U.S. Patent No. 5,919,583 ("Grot"). Applicant respectfully traverses this rejection. Subject matter of non-rejected claims has been included in the independent claims thereby rendering moot this rejection.

Claims 1-4, 8, 10-13, 17 and 19 also were rejected under 35 U.S.C. §103 (a) as being unpatentable over Watanabe *et al.*, US Patent No. 5,766, 787 (Watanabe) in view of Grot. Applicant respectfully traverses this rejection.

Even if the teachings of these two references were combined as suggested in the Action, the combination still would not result in the presently claimed invention. Rather, the combination would result in, at best, an ion-exchange polymer containing conventional additives and fillers, and a porous support. Moreover, these conventional additives and fillers are optional, which means the prior art suggests their inclusion would have little or no effect on the ultimate properties of the ion-exchange polymer. In sharp contrast, the present examples reveal that unexpectedly superior results are achieved when a reinforcing agent is added and impregnated into the porous support, in addition to the ion-exchange polymer. The examples compare otherwise identical membranes, with the exception that the comparative and inferior membranes do not include the reinforcing agent.

The prior art cited in the Action, by describing the use of conventional fillers and additives, suggests that the inclusion of these fillers and additives would not have an impact

on the properties of the ultimate membrane, or at the very best, would have little impact if any. The present examples reveal that this is not the case. The present inventors discovered that unexpectedly improved composite ionic conductive polymer membranes could be fabricated by the addition of a reinforcing agent(s). The present claims therefore would not have been obvious over the combination of Watanabe in view of Grot.

In addition, the prior art cited in the Action teaches directly away from adding the reinforcing agent as a different (*i.e.*, separate) component by disclosing the addition of certain fillers and additives into the ion-exchange polymer which necessarily become a part of the polymer, instead of being a different species (*i.e.*, separate) than the polymer (*see*, for example: Grot, col. 5, lines 58-59 (fillers dispersed in the ion-exchange polymer, not the porous support); col. 6, the heading at line 40 and accompanying text ("Incorporation of Inorganic Fillers into the Membrane"), etc.). As stated above, incorporating additives and fillers into an ion-exchange polymer is not the same as adding a reinforcing agent and an ion-exchange polymer that each individually impregnate the porous support.

Applicant is attaching hereto a declaration under 37 C.F.R. §1.132 by the inventor comparing reinforced ionic conductive polymer membranes prepared in accordance with the present invention, and otherwise identical membranes, except that reinforcing agent (SiO_2) is added to the ion-exchange polymer as an additive, as described in the prior art cited by the Examiner. Indeed, comparative example 2 in the attached declaration is closer to the present invention than any of the prior art disclosures cited by the Examiner. The results shown in Figure 1 attached to the declaration reveal that a reinforced ionic conductive polymer membrane prepared in accordance with the invention provides unexpectedly superior results, when compared to comparative membranes that are closer to the invention than the membranes disclosed in the prior art cited in the present application. The combination of Watanabe and Grot therefore fail to render obvious the present claims, and Applicant respectfully requests that the Examiner reconsider and withdraw this rejection.

In view of the amendments, remarks, and declaration submitted herewith, applicant respectfully submits that claims 1-3, 5-12, and 14-25 are in condition for allowance, and a Notice of Allowance indicating as such is earnestly solicited. In the event that any issues remain outstanding, applicant would appreciate the courtesy of a telephone call to the undersigned counsel to resolve such issues in an expeditious manner and place the application in condition for allowance.

Respectfully submitted,

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PETITION and DEPOSIT ACCOUNT CHARGE AUTHORIZATION

This document and any concurrently filed papers are believed to be timely. Should any extension of the term be required, applicant hereby petitions the Director for such extension and requests that any applicable petition fee be charged to Deposit Account No. 50-1645.

If fee payment is enclosed, this amount is believed to be correct. However, the Director is hereby authorized to charge any deficiency or credit any overpayment to Deposit Account No. 50-1645.

Any additional fee(s) necessary to effect the proper and timely filing of the accompanying-papers may also be charged to Deposit Account No. 50-1645.